Phil Spector and the Wall of Sound

by
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Abstract

Phil Spector was one of, if not the most influential producer of the 1960s and was an instrumental part in moving music in a new direction. With his "Wall of Sound" technique, he not only changed how the start of the decade sounded but influenced and changed the style of some of the most iconic groups ever to exist, including The Beach Boys and the Beatles. My research focused on how Spector developed his technique, what he did to create his iconic sound, and the impact of his influence on the music industry. As well, I used my research to record three songs that show Spector's style in different stages of his career with the goal of seeing if I could recreate his sound with the resources and equipment available to me.

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THE BEGINNING

Who Was Phil Spector

Phil Spector, son of Benjamin and Bertha Spector, was born in the Bronx, New York on December 6th, 1939. He was raised in a lower-class family where his parents had migrated from Ukraine, his dad was an ironworker, and his mom stayed at home. In Dave Thompson's book, the *Wall of Pain*, he talks about how Spector was, "showered in love." His mom and sister were overprotective but gave him a good childhood full of music. Thompson brings up that, "R&B pounded out of windows… barbershop quartets serenaded passers-by… and at home the family radio was always on, pumping out a mixture of light orchestral music and the latest hits from artists such as Bing Crosby and young Frank Sinatra." Despite his protective and loving childhood, things soon took a tragic turn.

When Spector was nine, his dad left for work one day as he did every day, but he never came back. His dad took his own life by pumping car exhaust into his car, never even saying goodbye to anyone. This was a shock to the whole Spector family, not only losing their father but their only source of income as well. Bertha Spector's brother Sam "looked out for the widow and her two children for three years" (Thompson). With a lot of her other family members moving to California, his mother decided that she would move to join them. Spector's mother became a seamstress in LA. He had just finished elementary school. He would eventually go to high school at Fairfax High, which would later become known as the "Original Rock 'N' Roll High School" (Thompson).

Spector was very studious and preferred school work over socializing. However, as Thompson brings up, "insanely shy Spector had just one thing in common with his

more outgoing schoolfriends – an insatiable urge to play guitar" (15). When he turned thirteen, his mother gave him one for his bar mitzvah, and his musical obsession began. It is said that "he was capable of picking out tunes immediately after he first heard them." Shows like the *Ed Sullivan Show* captured Spector, and when the rock and roll wave swept the country, he was one the first to catch on. He would listen to all the rock and roll he could while also listening to large amounts of jazz, in addition too regularly reading *Down Beat* magazine (a jazz music magazine) (Thompson).

Spector would end up playing either piano or guitar on a couple of sessions in the next few years, but he was far too meticulous not to be the head producer of a group. Barney Kessel gave him some advice to help him succeed that was, "make it your business to visit every recording studio in Hollywood, simply hang out and watch the recording process" (Thompson). Spector did this to the extreme, sitting in all over town, talking to producers, and observing what they were doing. Some studios were very choosy about whom they let in, wanting Spector to buy time and tape to sit in on a session. However, there was one studio that was his safe haven - Gold Star Studios (Thompson 22). Gold Star is where Spector would not only learn how to record but where he would go on to create his biggest hits.

After being able to raise enough money to buy both a few hours in the studio and some tape, Spector and his group of school friends went in to record their song, "Don't Worry My Little Pet." The group was known as The Teddy Bears, and they recorded another song as well called, "Wonderful Lovable You." At this time in the music industry, the B-side of records were throwaway songs. They were done in as few takes as possible with almost no attention paid to them, by either the producers or the consumer.

However, Spector, being the perfectionist he was, would not let that happen. He made sure that both recordings were of a higher caliber. These first two songs would not take off and would receive little attention, but the next track Spector was working on was of a different level.

When Spector's father passed away and was buried, his tombstone had an engraving on it that said, "To Know Him Is To Love Him." Spector took this engraving and wrote a song for the Teddy Bears of the same title. The recording process of this song was one of the fastest for Spector, taking only twenty minutes and two takes, the first take being a level check (Thompson 29). Before the release, some thought that "To Know Him Is To Love Him" should be the B-side to "Don't Worry My Little Pet." After both sides were played, Spector tried releasing the record switching the sides of the songs, but nothing stuck. In LA, people just felt that the song was under-produced and thin (Thompson 30).

The song didn't get any more traction in LA and fell out of play reasonably quickly. However, up in Fargo, North Dakota, the song was being played every day by a disk jockey named Charlie Boon (Thompson 31). Slowly, the orders for the single began to roll in, and soon enough, Spector got an offer to put the group on Dick Clark's American Band Stand. Once the single was performed on the show, orders came in from all over and propelled the single to number one, giving Spector his first hit record. "To Know Him Is To Love Him" was Spector's last hit with The Teddy Bears, and would start his mission to achieve that "number one status" in the future.

The Wall of Sound

Phil Spector's "Wall of Sound" was a combination of many different factors that resulted in a large, room-filling sound making the song essentially a "Wall of Sound." This was a result of a combination of both orchestration and number of musicians that would create one of the most iconic sounds from the decade. The players on these tracks began to be known as the "Wrecking Crew" including: Hal Blaine on drums, Frank Capp on percussion, Carol Kaye on Fender bass with Ray Pohlman and Lyle Ritz on string bass, Jerry Cole and Bill Pitman on guitar, Steve Douglas and Plas Johnson on tenor sax, Jay Marocco on baritone sax, and many more depending on what instruments were needed. This group of musicians would all play the track live, and while the song was usually one full take, it would end up being over a hundred takes to get just the right one. Spector had a way of wearing down musicians before the recording even began. He would have the musicians practice for sometimes up to three hours before even recording one take. While some say it was to make sure that all the parts were well practiced, it is believed that he may have done this so that all the musicians lost their personal touches and would blend into one sound better. It was not uncommon for these sessions to last eight hours and for guitars to come out with bloodied and beat up fingers from playing for so long. On tape recordings from the Be my Baby session, you can hear them on take seventy for that day. Even that late into the process, Spector would still stop them only four bars in to fix something small.

Exhausting players was not the only reason these recordings had such a distinct sound. Most of Spector's recordings were done in a studio called Gold Star on Sunset Boulevard in California. The room was not very large being only 19 by 24 feet, with

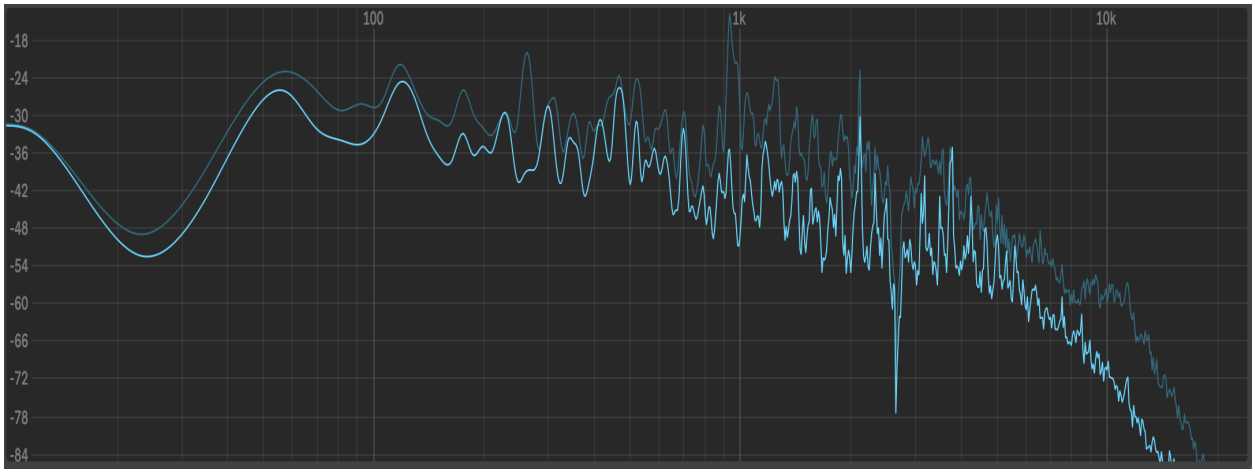
ceilings 13 feet high (Buskin). This smaller room meant that all the musicians had to be right next to each other while they were recording. This is what gave the "Wall of Sound" its distinct quality. With every instrument in the same room, mic bleed from sound sources to other mics was inevitable and meant that you would hear the drums in not just the drum mics, but the acoustic guitar and bass mics as well. This mic bleed led to the sound blending and all the instruments seeming like they were a wall in front of the listener.

When recording, another factor to the uniqueness of the sound was the echo chambers. The echo chambers at Gold Star had a massive effect on the sound. You can hear this very clearly in the drum intros of both "Be My Baby" and "Wouldn't It Be Nice." The huge snare drum decay was thanks to that echo chamber. An echo chamber is a room, usually with hard walls such as brick or plaster, and a speaker – microphone combination. That combination was used to project the sound coming from the tracking room let it reverberate through the room, and then be captured and sent back to the control room. Phil used these rooms to his advantage to help create a large space out of a small room. As well, the echo chambers at Gold Star had a unique relationship between presence and echo. As Buskin said, "if you added level to the echo, it would reduce the level going directly into the console, so there was a spatial effect." When the direct sound would begin to be drowned out by the signal from the chamber, it would lead to the tracks having more of a roaring effect. This spatial effect is what gave Spector's recordings their huge sound and made it sound like he had an orchestra in the studio.

The mixing of the track was another reason for the feeling of a "Wall of Sound" in front of you. In the time Spector was beginning to experiment and develop his

technique, mono was the standard for mixing. Stereo was beginning to come onto the market and was seen more as a novelty than a real form of music consumption. “Phil wanted everything mono,” (Buskin) he believed that it was how music was meant to be listened to. None of his mixes where he was the lead producer have been mixed in stereo. With so many instruments being on each song, and the mix being mono, it meant that all the instruments were always fighting for a spot in the front of the mix. This would lead to everything that is not the lead vocal being put further back in the mix, and the sounds would become blended. This blend was the key to his sound, and once all his levels were correct, Spector would bring in the signal from the echo chamber. This would help mix everything in the back together, creating the “Wall of Sound.” The sonics of Spector's tracks were unlike almost any tracks at the time. Below is a spectral analysis graph of Spector’s “River Deep, Mountain High” track. On the x-axis is the decibel level of each frequency and the y-axis is frequency on a logarithmic scale. This graph is relatively flat from roughly 100 Hertz to 4 Kilohertz. To the listener this means that the track feels full in the midrange, meaning that vocals, guitar, and horns come through louder. With the low and high frequencies lacking, this means the track sounds more in your face, leading to the "Wall of Sound."

Appendix A.1. “River Deep, Mountain High”



Spector's track has a consistent line between 60Hz and 4kHz at a level of 36dB leading to the track sounding brighter overall. As well, the human ear is most sensitive to frequencies between 1kHz to 4kHz, meaning this track comes across to our ears more. These factors combined to make Spector's tracks sound louder and more full than other groups at the same time.

The “Wall of Sound” was a combination of multiple factors leading to its creation. The use of so many musicians in one room leads to such a unique sound. Using the room as an instrument so the sound would bleed into other mics was a technique never used before. The echo chambers at Gold Star Studios and how the console took away dry signal as the signal from the chamber was something unique to that specific studio, leading to the sound being even more unique. Lastly, because of the number of musicians and the echo combined the sonics of this track were something not seen before, with there being no breathing room for any instrument to cut through Spector created his "Wall of Sound."

THE TRACKS AND GROUPS

The Ronettes

The Ronettes were a small three-person vocal group out of New York made up of Nedra Talley, Veronica, and Estelle Bennett. After they all graduated high school, they decided to try to chase their inspiration, The Crystals. The Crystals were a female vocal group whom Spector had worked with for the past few years. The group got off to a good start when they performed on the " New York's Peppermint Lounge, and DJ Maury's The K's holiday dance shows at the Brooklyn Paramount." (Thompson 76) These performances gave the group a large amount of publicity, and in 1961, recorded a few singles for Columbia's Colpix label, but unfortunately to not much avail. None of the singles did very well, and for the next few years, the Ronettes were stuck with recording on any session that people would pay them to do. As Thompson says in his book, "the three Ronettes had devoured Spector's most recent hits, and were convinced that whatever he'd done for The Crystals, he ought to be doing for them" (76).

One day, they found out where Spector was and called him to try to get an audition, and the next day they were meeting him. They auditioned for him in Mira Sound Studios, and it went great, so great that Spector decided that he wanted to sign them. The last challenge was to get the Ronettes out of Columbia's control. The group ended up convincing Columbia Records that they were done with music and that they intended on going back to school. Once the label dropped them, Spector was now free to sign them, and in the March of 1963, the Ronettes signed to the Phillies label. The first single that they began working on was one that Spector knew would not even be released. He then had the group record three more songs and released them on The Crystals album.

While this frustrated the Ronettes because they felt like just an afterthought and not a serious act, all of this was made worth it when they released their first single, "Be My Baby."

"Be My Baby" was a new sound of the time and was Spector's first real "Wall of Sound" track. The track would go on to reach #2 on the Billboard Hot 100 and would give the Ronettes a commanding position to have many more hits to come.

Be My Baby

When Spector was looking to try to make his next big hit, he had a different idea for a song. When making a “Da Do Ron Ron” for The Crystals, he had begun to work a technique that would become his crown jewel: the "Wall of Sound." Spector's goal was to create one, cohesive sound, that was like a wall in front of the listener. This was a combination of layered orchestration, all the musicians being in one room, and a combination of mixing and echo chambers. While “Da Do Ron Ron” was a start in the right direction, “Be My Baby” was the song to put the “Wall of Sound” on display.

“Be My Baby” was written and composed by Jeff Barry, Ellie Greenwich, and Phil Spector. While they composed the song, many changes were made in the studio. "Jack Nitzsche built the lead sheets, and that was the thing – it all got built" (Buskin). Spector would then start with the guitars playing a few bars, and potentially change it up if he didn’t like it. After that, he would bring in the piano and then the bass, and then the other instruments at the end. The only instrument that didn't have much input on what was played was the drums. Hal Blaine was the drummer on the "Be my Baby” session and then many more to come in the future. Blaine wouldn’t play until near the end of the rehearsal process and would lay down a part that would fill in what the track was missing. He was one of the only people playing on the sessions that Spector would give some freedom; every other musician had to listen to his meticulous orders.

The session for “Be My Baby" was a long haul and a grueling one at that. Spector was considered to be a "mad dictator, relentlessly working his musicians to the point of exhaustion and refusing to give them even a few minute breaks" (Buskin). This session was no exception, Spector had forty-two takes of “Be My Baby” before even starting to

roll the tape to record. In a studio recording, you can hear that even on take seventy, Spector would still be changing even the most minute details to make sure that the track was exactly what he wanted. For example, there was a part where you can hear Spector is talking to Blaine about the drum intro, and he took six takes to make sure it was what he wanted and nothing less. Some believe that Spector's long, tiring sessions were not only in the pursuit of perfection but to cause the players to lose their ambitions and uniqueness. This would cause all the musicians to blend into one complete sound, instead of multiple unique sounds. This blending is what might have contributed to Spector's "Wall of Sound," and how it was so cohesive and full. The musicians on this track were nothing short of extraordinary though, so to take away their personal touches did not inhibit their playing ability in the slightest. Some musicians included Hal Blaine on drums, Carol Kaye on bass guitar, Glen Campbell and Tommy Tedesco on guitar, Steve Douglas on saxophone and Leon Russell on piano. This group would become known as the "wrecking crew," helping Spector churn out hit after hit into the radio pop landscape.

The Vocals for "Be My Baby" were thought of just as much as the instrumentals, if not more. Spector worked with Ronnie Bennett for weeks leading up to the session as Buskin outlines. Then "it took about three days to capture her performance" (Buskin). The vocals in Spector's technique were treated differently than the other instruments. While the instruments were a blended mixture, the vocal was right in the front of the mix with the background vocals just set behind the lead. This would become Spector's formula for many of his hits to come. As well, while Spector might have worked the other musicians to the point of exhaustion and losing their personal touch, he wanted the vocals to be unique. Spector wanted the vocals to tell a story and have deep levels of

emotion. He wanted to capture emotion in the singing and convey it to the listener. The vocals had to be perfect, but not in the way of blending into the background, but standing out and capturing your attention. To make sure the back-up vocals were perfect, Spector only had Ronnie sing them, leaving out the other two Ronettes of the recording process entirely.

This song captured an entirely different kind of emotion than previous songs. Tracks like "Da Doo Ron Ron" by The Crystals and "Not Too Young To Get Married" by Darlene Love and Bob B. Socks and The Blue Jeans were more light-hearted radio tracks catering to teens, but "Be My Baby" was something different. While it was made for radio play targeted at teens, it was also deeper than that. It had this raw emotion that had not been heard on any radio hit before. This is one, if not the first track of Spector's, that would be labeled as "little symphonies" for kids. This track would go on to captivate producers all over the world like Brian Wilson.

River Deep Mountain High

After half a decade of creating hit after hit, Spector had a different idea. Instead of a pop song, he wanted to create a soulful, symphonic R&B ballad. In the 1960s there were two main sounds according to Ike Turner, "the sound was either pop or white" (Billig). Spector wanted to try something new and push the boundaries of what pop music could be for the time. With productions like "Be My Baby," Spector took risks, he was still somewhat within the norms of production for the time. He kept the music very light and with a poppy sound; it still had emotion, but nothing like "River Deep, Mountain High". Things such as how long it took to track the session, and the general cost were also normal for the time, but "River Deep, Mountain High" was different. "The completed recording cost around $22,000, at the time an unbelievable price tag for a single" (Song Facts). Not only that, but Spector took his "Wall of Sound" technique to the next level. He didn't just have a few musicians; he had over twenty of the top musicians on this session. This was arguably Spector's most significant risk of his career.

"River Deep, Mountain High" was written by Phil Spector and two of his old friends from the Brill Building, Jeff Barry and Ellie Greenwich. When Spector was creating this song, he had huge dreams for it. On his tracks, since they were so grandiose, a vocalist that was strong enough to cut through was needed, and he knew just the person. Tina Turner was an R&B and soul singer of the time, and Spector wanted her to sing. However, she was not only on another label but also in a duo with her husband, Ike Turner. Spector, having the vision of what the song would become, offered Ike and Tina's label $20,000 to release them from their current recording contract (Song Facts).

Even though they were both released, Spector had no want for Ike; he only wanted Tina for her thunderous voice and actively wanted Ike not to show up at any sessions.

Spector's vision for this song was nothing short of crazy, and he had a dream to make it bigger than anyone would have thought to do at the time. Spector assembled the Wrecking Crew and then added even more people. In total, he brought together twenty-one session players and twenty-one background singers, costing $22,000, which at the time was the cost of multiple albums. Not only that, but the amount of part doubling was ludicrous. He had, "four drummers, four bassists, three keyboards, two percussion, and a brass section" (Thompson 113). Even though that was more than enough, Spector still had not added the string section to the track. The song took three tracking sessions to complete as well as multiple sessions to record vocals.

Tina Turner was the last person to record and had to tie the cacophony together to create a masterpiece. She and Spector had been working on her vocal performance for weeks before she ever recorded. Thompson says that "Turner spent two hours a day with Spector, every day for a fortnight, simply working on the melody for the verses – an experience Turner later equated to 'carving furniture'" (133). Spector wanted her vocals to he perfect, and even after all that practice, she still had to do well over a hundred takes.

"To sing [the song] again while the immense rhythm track gorged her ears through headphones, [Tina] was constantly interrupted by Phil. 'That's close,' he would say. 'Let's try it again.' She had to inch up on the vocal, until, long after midnight, she was dripping with sweat and had to take off her blouse. Standing in a pitch-dark room in her bra, her head and her ears pounding, she took a deep breath and ripped it again, the veins in her neck bulging and her lower stomach in stabbing pain" (Ben).

This session pushed everyone to the extreme, including Spector himself. Not many people believed that it would be a hit; it was just so different from everything out at the time. One of the co-writers, Ellie Greenwich, is said to have thrown the record across the room after hearing it for the first time, she hated it. Like anything groundbreaking, the song was ahead of its time, but unfortunately for Spector, it was ahead of America's taste as well. It peaked at only #88 on the Billboard Hot 100 chart, being labeled as a commercial flop. The only good news to come from the release was that the United Kingdom liked the single with it reaching #3 on their singles chart. This did not save Spector from caving in on himself. He had poured himself into the song, and for it to fail in the United States, which was the market he was after, was a devastating blow. Spector would go into seclusion for the next three years before he began to work on music again. The track has gone on to be known as a classic and one of the great tracks of the 1960s, but it was little too late for Spector.

Brian Wilson and Wouldn't it be Nice

Brian Wilson, a member for the profoundly popular Beach Boys, and was one of the most forward-thinking producers of the late 1960s. Starting off the decade, the Beach Boys were a popular boy group releasing shorter, upbeat surf pop records like "I Get Around" from 1964 and "Surfer Girl" from 1963. However, in 1966 Wilson began work on a different kind of album, Pet Sounds. When it was released, it is considered to be rock's first "concept album" (Davis). While it was met with mixed reactions in the United States, the United Kingdom loved it, with reviewers calling it the most progressive pop album ever. Years later, it is hailed as a masterpiece with Rolling Stone ranking it second on its top 500 albums of all time, only behind Sgt. Pepper's Lonely Hearts Club Band, which this album influenced.

When Wilson went to begin on the groups' eleventh studio album, he was moving away from the light guitar and surf pop vocals into something more complex and elegant. He began working on what would become his masterpiece on the 18th of January in 1966 (Havers). Wilson was working mostly on the composing while Tony Asher wrote the lyrics to the tracks (Runtagh). This album was recorded over twenty-seven sessions, and four studios, including Gold Star. This was an unheard of amount of time to spend on an album, and over three months, songs like "Wouldn't it be Nice" were created.

Brian Wilson took many ideas from Spector. In the book by Philip Lambert, "Brians legendary obsession with Phil Spector's production of the Ronettes' recording of "Be my Baby" began immediately when the single was released" (122). He would talk about the deep echo of the drum and the "Wall of Sound" that the song created. When he first heard "Be My Baby," it drove him to not only learn from Spector but seek him out

for guidance. Later, in a 1998 interview with Roger Scott, “Brain Asserted that his *magnum opus* aspired to “extend” Spector’s music, that “in one sense of the word, we were his messengers” (Lambert 225). This drive to work with Spector did eventually allow him to work with the man himself.

Wilson ended up, "offering up one of his songs, "Don't Hurt my Little Sister,” for the “Wall of Sound” treatment, and pitching it as an arrangement for Darlene Love in the summer of 1964” (Porteous). This allowed Wilson to see how Spector worked and let him in on the sessions. Spector offered Wilson the chance to play piano on the track but ended up saying in the end; the song would be scrapped. Wilson didn't let this go to heart, as he ended up releasing the track on the Beach Boys album, Play. Wilson had another idea, and he wrote the song “Don’t Worry Baby.” He had, “listened to “Be My Baby" over and over at aggressive volumes," (Porteous) and had begun to understand the combination of necessary instruments. This was also the first time that another producer had "matched" Spector at his sound and style. Wilson had unlocked what Spector was doing in the studio, and was able to tell a story through his composition and lyrics just like Spector. This knowledge is what Wilson took into his work on "Pet Sounds."

With Wilson now understanding the "Wall of Sound," he used that technique to great effect. "Wouldn't it be Nice" is the lead track on Pet Sounds, and Spector's influence is everywhere in this song. For starters, the iconic, "Be My Baby" drum hit to open the song cuts right through the mix after the twelve-string guitar solo. Then comes the whole band, made up of instruments you would not think would be in a pop song such as accordion and a full brass section. This is coming off of Wilson’s use of the Theremin on

“Good Vibrations,” and he was using these instruments in ways that the music industry had never seen.

“Wouldn’t it be Nice” is not a complete rip of the "Wall of Sound," but more of a pick and choose. The echo and reverb on this song sound almost the same, as earlier, the drum hit is a callback to “Be My Baby." However, things like the vocals are much more forward in the mix. They cut through the mix as if they were right in front of you, instead of back with the ensemble. As well, you can hear that a lot of the musicians were in the same room due to the mic bleed and the live room sound. The difference is that all the instruments also have room to breathe. The “Wall of Sound” is more of a mass of sounds all combining into one roar, while “Wouldn’t it be Nice” is more of a refined version of this technique. Wilson used the technique of having everyone in the same room, and the echo chamber but toned it back during the whole song. This combination of Spector's use of the studio as an instrument to create a wholly unique sound and Wilson's great orchestration led to the creation of one of the greatest albums of all time.

PLANNING AND METHODOLOGY

Planning of Session

The idea for this project came about two years ago, but planning for this session began about four months before the recording date with what tracks would be recorded. The challenge was to pick tracks that demonstrated what Phil Spector's technique was, but also show how it evolved and influenced groups to come. When thinking about his first years as a producer, he had groups of people he had to impress, the public and the record label. When it came to being experimental, his first hits were not that. "To Know Him, Was to Love Him" was a huge success to start his career, but it was not the "Wall of Sound." It had an underproduced quality with light instrumentation and a more longing vocal performance. The first song that had his signature technique was the Ronettes “Be My Baby,” which is why I chose it. It was the beginning of his journey toward what would become the main sounds of the 1960s.

Wanting to show the peak of both Spector’s career and the "Wall of Sound," Ike and Tina Turner's “River Deep, Mountain High” was just that. While it was a commercial flop by chart standards reaching only #88 on the Billboard Hot 100, it was the most elaborate song Spector had ever created and what he had been working towards for the past few years of his career. While it was not the most commercially viable track he created, it has gone on to become a classic and is the pinnacle of the style. Lastly, to show the influence he had on producers going forward, I chose Brian Wilson’s creation with the Beach Boys, “Wouldn’t It Be Nice.” This was a track that had that distinct "Wall of Sound," but with the Beach Boy's signature style woven in as well. Wilson outlined

how he was so influenced by “Be My Baby,” and spent the next few years trying to break down how it was done.

Once I had my songs selected, I had to start thinking about when I would do the session, how long would it take, and how many players I would need on the day. The session took some time to work out. I needed it to be on a school break because I required the studios for most of the day, and that was just not possible when there are classes in session. As well, I needed all my players to be free that day, and I could not ask them to skip all their classes. I decided on January 10th, 2019. This day worked out great with all my musicians being able to make it and being able to get into both studios for the whole day. Thanks to the maintenance shop staff, I was able to get into both studios A and B at ten a.m. and have them until four a.m. on the 11th. Getting the number of players I needed went very well too. With no budget to hire any studio musicians, I turned to my good friends, and they all stepped up. I was able to get all the players I needed for the day to make the initial tracking a success.

When planning the session, I worked to have as many elements as possible accounted for before even entering the studio. This first began with researching all three tracks and finding out what instruments were on each track, and then how many. While the instruments themselves are significant, to recreate the "Wall of Sound," numbers were also a crucial part. "Be My Baby” was the smallest of the three tracks, only consisting of nine players and having a very simple orchestration. One thing that I chose to do that was unorthodox was not give everyone headphones. The largest, "River Deep Mountain High," had thirteen players on it. With this many people, one of my first thoughts was how would everyone find the tempo. I decided on having everyone listen to the drummer

because there were not enough headphone boxes in the studio, as well as not enough ports on the wall to supply everyone a headphone mix. This was the song that I thought would take the least amount of time to record, so it would give me an excellent chance to work out any kinks that came up to allow for the songs later in the day to run more smoothly.

I chose to do "Wouldn't It Be Nice" second because I wanted to build up the players for each session, culminating with "River Deep Mountain High." This song was the easiest to plan for and went smoothly. I provided charts to the musicians, but a lot of them told me that they would learn it by ear, trusting them, I let them, and they replicated the track perfectly. Planning for “River Deep, Mountain High” took the most amount of time. I had found a written out orchestration of the song, but I also had charts as well. I did this because some musicians did not read grand staff music well, while others could not read charts.

Once I had the music lined up for the musicians, I needed to figure out the best way to record them. I took a recommendation from a few of my most trusted friends and chose Dillon Matheny as my lead engineer. While I had not worked with him, he was one of my best options, and with no ability to hire a graduate student, I trusted him, and to great result. When it came to planning the recording, I worked with Dillon, and his assistant, Alex, to create templates for each session to allow for easy setup. In addition, I created routing sheets for each track, not just what channel they would be on the console but with the specifications like the type of microphone, microphone tie line, console input, and then phantom power. This allowed for ease of set up of both the console and the tracking room when I had multiple people helping me out. From this list, I created

Pro Tools session files with all the tracks pre-made and labeled to allow for faster set up of the tracking room and more time for things such as patching the tie lines to the correct console input. This amount of pre-production and planning allowed me to spend more time focusing on things in the studio such as organizing the room and moving the necessary equipment from studio A over to Studio B.

Methodology

For this project, I wanted to try to re-create the original sound that Spector had created in the 1960s. I put myself in Phil Spector's place and tried to imagine the technology that he would have had access too. Through both research, and looking at pictures from the sessions, I was able to learn about the equipment that he had available to him at the time. My goal was to try to keep everything as original as possible and then try to recreate what I have heard.

I started with the recording process and what I would allow myself to record with. Spector originally recorded to one or two-inch tape, but this was not a realistic possibility for me. While there are tape machines on campus, I did not have enough access to them to be able to work on my project reliably, or to the extent I wanted too. I decided to use modern technology and record with Pro Tools. This gave me the flexibility to work both in the on-campus studios and at home. With modern technology, I did have some distinct advantages that Spector did not have. For one, I could record multiple takes of a song and keep them all; on tape, it is roughly three hundred dollars for fifteen minutes of tape, which means I would get one, maybe two takes of each song recorded. With Pro Tools though, I was able to record around ten takes of each song and combine them to create a more massive sound that I wouldn't have been able to with tape.

Once I had decided on how I was going to record the songs, my next thought was mixing. In that era, they only had access to minimal hardware and didn't even have the concept of digital plugins. I would have used only hardware, but due to the cost limitations of acquiring such antique gear, I had to rethink my approach. I decided to limit myself to emulations of plugins that Spector would have access to at the time. When

working with any overdubs, I used an emulation of the Universal Audio 610 A microphone preamp that was in the Gold Star Studios around the time that Brian Wilson was recording "Wouldn't it be Nice." For compression, I decided to limit myself to two Universal Audio plugins that are emulations of their LA-2A and 1176 compressors. The 1176 came out in 1966, right when Brian Wilson was working on *Pet Sounds,* and the LA-2A had been around since about 1958. The next main effect that I wanted to get as close as possible was the echo chamber that was in Gold Star Studios. There was no emulation of this chamber itself, but I was able to find a sound sample from the chamber and loaded it into an emulation reverb that allowed me to replicate it. This is slightly more modern because it has volume controls on board, and a spectral equalizer, but it produced almost an exact match to the original sound, so I used it to help me achieve my desired effect.

Additionally, I used the default spectral equalizer (EQ) in Pro Tools on all the tracks. I did this for a couple of reasons. To start, I needed more control of what frequencies I was cutting out of the track. Due to their limited recording technology, they were not able to record frequencies above 8kHz effectively, so most tracks lacked this as well as below about 60Hz. For this reason, I used the default EQ in Pro Tools to help me do this to achieve a more authentic sound. The second reason was for computer power. With non-default plugins, they tend to use more CPU power than their default counterparts, and with one of my songs being over 130 tracks, I wanted to save power consumption where I could.

One plugin I used that they did not have access to at the time was auto-tune. I used a program called Antares Real Time Auto-Tune on most of the vocals on “Wouldn’t

It Be Nice." While this was not used in any of their tracks, I still decided to use it. Because I was working with no budget and not a lot of time overall, I was not able to rehearse with my vocalists. I had only a few takes to record what I needed with no time to coach them on individual notes or phrases. For this reason, I used auto-tune to clean up areas that the singer was lacking and fix any glaring pitch issues. As well, I used the technique of combining multiple vocal takes to achieve the best possible take, again due to my lack of time with each artist.

For the most part, I was able to keep myself limited to the equipment they had available to them. For reasons of time or cost, I was not able to use all original equipment, but through emulations, I was able to achieve a close match. I tried to keep my approach as close to the original as I could, and even though I made substitutions, my goal for this project was to get my recordings as close to the originals as I could, and with the plugins I used, I was able to do so.

RECORDING AND MIXING

The Session

When January 10th finally arrived, it was time to make sure that I got all the baseline recording done. After two years of thinking about this idea and planning out how I would do it, it was time to show I could. To start the morning, I got to the studios at about ten a.m. to make sure that I could get both studios unlocked. Having both large recording studios, studios A and B, I was able to have access to all the equipment I would need to achieve my goal. I chose to use studio B even though I had access to both because I am more familiar with the room and the console. As well, from my research, I discovered that the Gold Star studio was 19 by 24 feet, with ceilings 13 feet high (Buskin), so I felt that Studio B was a better fit for the project.

Once getting both rooms unlocked, I began by labeling all equipment that I knew would be coming over from studio A with painters tape so that I could easily distinguish which equipment was from which studio. Around thirty minutes after I got to the studio, my main engineer and his assistant arrived. I was able to update them on some last minute changes I had made over the break, but since we had met before the break and planned the console, I was able to leave them in the room to set up. This was a massive help for me to have a trusted engineer and assistant. Without them, it would not have been possible to focus on other parts of the day. Soon after, all my other assistants showed up, and we began to set up the studio. I had drawn out studio maps and planned details down to the microphone tie line. Set up went smoothly with the order being putting chairs and gobos into their correct locations, setting up microphone stands, attaching microphones, and lastly running microphone cables. I did this to cut down on

both, the chance of people tripping over microphone cables or people knocking over microphones and damaging them.

Once the preliminary setup concluded, all the players arrived, and recording of the first song could begin. The first song was "Be My Baby" by the Ronettes. This song was the easiest of the three, but I still planned for three hours to record it. I did this to both allow for longer breaks to keep players well rested and happy, but also to allow for any problems to be solved early on in the day. With no chance to do a practice set up, I did not know what might go wrong, and I wanted to make sure that once the first song was finished, I would not have to have long pauses for technical difficulties. Between some faulty XLR cables and a few DI boxes causing issues, I was able to get a recording about thirty minutes after planned. About five takes later, and a few musical things fixed, I was able to give the players a break, and that was when the most significant problem happened. My engineers were starting to get confused due to the addition of a few microphones that were not initially on the planning sheet. They decided that if they took extra time to redo the patch bay and the clean up the session, they would not have to have any delays later in the session. While this took a little longer than I thought, it was a great decision by them, and both my head engineer Dillon and his assistant Alex made the right call!

The rest of “Be My Baby" went very well with no problems, and I was able to get multiple solid takes. The next track was "Wouldn't It Be Nice" by The Beach Boys. This track went the most smoothly of the three for sure. Recording got started right on schedule, and many good runs happened right towards the beginning. I was able to give players a long, and well-deserved thirty-minute break to rest up. When we began the

second half of recording, it went even better than the first half and thanks to the great players I had that day; we finished that track forty-five minutes early. However, after a long dinner break, coming back to record “River Deep, Mountain High” did not go as smoothly right from the start.

Going into this last track, I thought that the parts I had for all the players were all correct, but I was wrong. It took roughly an hour to get through all the musical issues that had come up, especially when I had to work with the bari sax and bass players to add an extra beat to the music. Thankfully, my good friend and the double bass player Cody, helped me out a lot when it came to figuring out what was wrong. Once that got worked out, things started to pick up. I stayed in the room to make sure I could feel that everything was correct. All the musicians began to really work together and put together some fantastic takes. There were three in a row where with every take, the energy got better and better, and everyone was putting it all out there. With the last break being just a short fifteen minutes, the final three takes began. I went into the control room for these to listen to how all the microphones were capturing the sound, and it was ideal. Not only did it sound very close to how the original track sounded, and not only could I feel the energy, but I could see it when I looked through the glass into the tracking room. I could see all the players genuinely having fun, and I think that is why the last few takes of “River Deep, Mountain High” felt so energetic.

With the session over, my stress was gone, and I knew that I had the necessary base on which build. With the help of most of the players, cleanup went very quickly and with the labeling of what was from each studio, there was not much confusion. It only took thirty minutes to tear everything down, and I was out of the studios by eleven at

night. This was three hours ahead of what I thought it would be, so I was very relieved. I was also able to walk away satisfied because I had three tracks with which I was thrilled!

Difficulties Recording

The idea of the session started when I was in my History of the Recording Industry class in the second half of my freshman year. After hearing about Phil Spector and his new techniques he had developed, I was intrigued. After thinking about trying this idea and contemplating if it was even possible, I decided to pursue the idea and officially proposed my thesis. At the same time, I also applied for a URECA grant from MTSU to be able to pay for transcriptions, session players, and food. This application was denied though, and with that, I had no budget to record. This lack of funding was my first and probably my biggest problem of the entire project. Not being able to pay for someone to transcribe the parts meant I had to go with what was online, or cheap enough for me to purchase on my own. The issue with the parts was that most of this music was never written down for an archive. These parts were written in concise lead sheets or players made up their parts on the spot altogether. So when it came to finding parts, I only had what people had written out, or what my musicians could learn by ear. As well for players, I was able to assemble fourteen musicians and helpers for the day and was able to make the session a huge success.

While the main recording session went better than I had anticipated, there still were issues. The session was still two days away, and I had a guitarist and a drummer cancel on me. The drummer had given a little more notice and had said that he would

most likely not be able to make it, but the guitarist quitting at the last second was a more significant issue. Spector's technique relies on there being many musicians in the room at the same time, and with one of the main instruments not being there, that was an enormous blow initially. Thankfully, one of the other guitarists, Connor Stith, was able to find a replacement very quickly and he did a fantastic job.

Going on to the actual day of the session, the set up went well, and I was able to get everything set up with relative smoothness, but once microphone checking and level testing began, issues began to arise. I had added a few microphones that day after seeing that the tracking area needed room mics, and the guitars needed another as well, and some of the room mics were not working. This was also an issue with one of the drum overheads. The right one was always cutting in and out. Plus, the talkback speakers were not as loud as I had thought, so communication between the control room and me in the tracking room got a little hazy at times. It did take a little longer than I wanted to resolve, but in the end, I was able to get the drum overhead fixed, and the engineers and I decided that cutting one of the room microphones was the best choice so we could start recording sooner than later.

The recording of “Be My Baby" got off to an excellent start, and I was able to get multiple good takes. On the break, my mentor, John Hill, stopped by to check in, and I realized that I had one significant issue. I was so used to recording everything for stereo that the drum microphones were a split overhead, which when both are panned center, can cause comb filtering, and severely degrades the quality of the kit. After a discussion with Professor Hill, we both decided that a mid-side microphone would be best. When put into practice though, we ran into the issue of not being able to set up the microphone

that was designed for that kind of recording since there was no microphone clip for it. In the end, because I wanted to get the recording started, I decided on a single microphone over the center of the drum kit facing down.

This fixed all of the microphone issues that would come up during the session and adding in more microphones as other instruments came in went smoothly. However, this only happened because my engineers, Dillon and Alex, told me that if they took fifteen extra minutes on the first break, they could do a soft reset of the console and redo the patch bay to allow the rest of the session to run better. While I was very unsure, and it made me uneasy to have the players wait even longer, I decided that it was the best call, and it was. I trusted that Dillon and Alex knew what they were doing and they delivered.

The recording of "Wouldn't It Be Nice" went very smoothly and there was not a problem. However, when we got to “River Deep, Mountain High” after the dinner break, it was a big problem. I got everyone set up and in their places, and the first time everyone tried the beginning, it fell apart. To keep everyone's morale up, I went into the tracking room and began to rehearse with the players. I didn't want them to get discouraged, or impatient because it wasn't going well. After about twenty minutes, the group was able to get through their first full run. However, there was still an issue, the song had a part that was just completely wrong, and the guitarist’s music just ended early. This is where my very first difficulty caught up to me of having no budget. I had found a complete transcription of the song online, and I thought that it was correct, but it was not. It had a few bass parts that were not in line with the song. As well, it had a bar that cut out two beats from the song. This one mistake took thirty minutes to resolve and almost derailed the whole session. Thanks to my upright bass player, Cody, he was able to work the bass

section and bari sax through that mix-up, and we were all able to finally determine what the issue was. Once that got rectified, the takes got much better. This was when everyone began to get into the music, and we finished with three great takes in a row.

Mixing

While the recording was a considerable portion of my project, the mixing of each song was just as important. The signature sound that is the “Wall of Sound” is a combination of both recording and mixing techniques. Thinking about how to start was a little daunting due to the size of the sessions. With “River Deep, Mountain High” being forty tracks, to begin with, and looking like it would be well over a hundred, it was a little intimidating. With everything being digital though, the mixing process did become a little less overwhelming. When I was first planning my session, I had almost decided to record the songs to analog tape, and in hindsight, it was a good thing I didn't. Not only would it have been difficult for me to edit the tracks due to my lack of knowledge and experience with tape and not a lot of access to the tape machines on campus. As well, I would have only had one take of each song recorded; I would not have been able to have multiple takes of each song. This recording method would have been a problem for how I planned to mix each song.

When starting the mixes, I decided to start with "River Deep Mountain High." I thought that since it was the biggest and most extravagant session, I would start with it. Opening the session, I first grouped each instrument type into their groups, and then routed them to separate tracks for my workflow in the future. Once the tracks were organized, I listened through the takes that were recorded and selected my favorite two or three for each instrument. Once I had my picks, I put each take on a separate track so when I hit play, I would hear the separate takes combined. When recording the songs, I had no click track going, and I had the musicians listen to the original recording instead. The reason I decided on this was to allow the musicians to have less of a robotic

performance on each take. I wanted each of the takes to vary slightly so when I multiple takes playing simultaneously, it would not compound the loudness of the instrument, but combine and work together to create a cohesive sound. This worked out well because it allowed me to have three takes of the drums, piano, horns, and two takes of the guitars and basses. I used combining of takes to help create the effect that I had thirty musicians in the room instead of thirteen, and it worked well.

A large number of players was not the only thing that created the iconic Spector sound; it was also the echo chamber that was in Gold Star Studios. However, there were some issues with the plugin I was using. It was extremely bass heavy and was way too loud. I talked with my thesis mentor and second reader about how while the sound was very present, every instrument may not have been sent to the reverb. As well, the limitations of their recording equipment meant that some of the low and high frequencies were not able to be recorded, also leading to mine sound way to bass heavy. With my modern recording equipment, I was able to capture about four times the amount of spectral content than what Spector would have been able too. This meant that while mixing, I had to cut out some of these frequencies going both into the reverb and into the final mix.

When mixing the vocals, I took a different approach. The vocals in Spector's tracks were very forward and prominent in the mix. I sent the vocal to a separate echo chamber so I could control it better. I didn't want the vocal reverb to get lost in all the other instruments. As well, since I would be pushing it much more forward in the mix, I wanted the reverb to be a level that matched it and didn't make the vocal feel fake. When working with the lead and in this case, the background vocals as well, I didn't want to cut

out too much frequency content. With all the other instruments, I cut out a lot of the low and high frequencies to help the instruments on each tack blend together better. However, with the lead, I want it to stick out. I want the lead vocal, and the background vocals to an extent, to stand out from the other instruments. For this reason, I left in more of the high range to allow the vocal to cut through and take up the space I had made but cutting the frequencies from other instruments.

Mixing for “Be My Baby” and “Wouldn’t it be Nice” were both very similar to “River Deep Mountain High.” I mixed the sessions in the same fashion, duplicating tracks to help give a bigger feel, using the same echo chamber, and for “Be My Baby," used the same vocal technique. For the Beach Boys track, it was a little different. Brian Wilson's technique, while pulling a lot from Spector, was much more background vocal-heavy mix, and overall just more vocal-centric. This changed my approach to this song. At the start of the song, there is this big snare hit; I used a separate reverb just for this hit to make sure it was right. This sound starts of the song, so I wanted to make sure that I replicated it appropriately. Once the vocals come in, I used a separate reverb for the vocals, just like the Spector tracks, but I used a separate one for the leads and the backgrounds. I did this so that I could have more control, and with so much of the mix being vocals, I wanted to be able to have the ability to fine tune a little more. "Wouldn't It Be Nice” also had the challenge of having much content in the same frequency spectrum. The vocals are all male, so they are all in the same general range (apart from some falsetto parts) with the accordion, guitar, and piano also taking up a similar region. For this, I used shaping EQ's to help make space for each instrument while still retaining their tonal quality's and creating a "Wall of Sound."

My “Be My Baby" mix went smoothly overall, and once I added the lead vocal to the instrumental, I felt like the space the instrumental had was filled. "Be My Baby” is a smaller track compared to the other two and was Spector’s first attempt at the "Wall of Sound," so it was not as grandiose as “River Deep Mountain High.” This meant fewer instruments and less overlap. I was able to mix this session the fastest, and when it came to making room for the vocal, I was just able to push it up. Since the lead singer and the background vocalists were female, they sat right on top of the mix, and with them being very forward in the mix, it meant that they did not have to compete with many instruments at all.

The mixing for these tracks went smoothly once I got all my vocals recorded. When my main tracking session complete, I opened each session and began to mix, but it felt empty. With the vocals being so prominent on all three of these songs, doing much mixing before I had the vocals recorded didn't make sense to me when the goal was to have one cohesive sound. I waited so that when I was shaping the cuts of each instruments frequencies, I wasn't cutting anything un-needed. I wanted to keep as much of each sound as I could, within the range they were able to record, and waiting for the vocals was a big part of this. Once I got the vocals, it went very smoothly, and I was able to mix quite quickly. Due to issues with my female lead singer, I had to push the recording of "Be My Baby" and “River Deep, Mountain High” back into March, not leaving me as much time as I had planned. I felt like I had plenty of time to mix though, and was able to get multiple revisions done and create mixes with which I was happy. Overall the mixing process went smoothly, and limiting myself to only plugins they had at the time of recording made it not only easier due to there being less to try to mess with,

but it also made me think differently in how to find solutions to my problems and made me learn the few things to which I had access.

REFLECTION

Completing this project was one of the most significant accomplishments of my educational career! I had been thinking about doing a thesis going over the "Wall of Sound" since my freshman year, and to complete it my senior years was both a great feeling and a great relief. Unlike every other project I had ever worked on before, there were no real guidelines over what it could be about and what I would have to do. While it did have to meet specific criteria, once it met those I was not limited in what I could choose to research, and I got to plan it all. Typically, in my work in the Recording Industry program, we are assigned month-long final projects, but there are criteria we need to meet, and we usually have certain things we have to include. My thesis was different. I got to meet with multiple professors individually and discuss my ideas and how I was thinking about achieving them and then choose how to pursue my goal.

When I began planning, I met with different professors from around the department. I did this to get a perspective from each one and to see how their different ideas worked with what I was thinking. This turned out to be a great thing; each of them helped me narrow my idea down until it was achievable and me. Once my primary mentor, Professor Hill, and I decided that it was in a correct state to pursue, I got to begin working on it. Having all these different opinions helped me realize what would be possible and what might have been too much. They all listened to my idea and then would help me by asking me questions to show me what I might have overlooked. Because of this, I had an idea that had been thought through more than I originally had, and it let me proceed with more confidence.

When it came to planning my session and how I was going to record anything, I went in with the approach of over planning rather than under planning. I tried to think through as many things as I could. Things like studio maps, what microphones would be on each instrument, and what channel they would go into the console on. I'm so glad I did this because I was able to focus on the more musical side while leaving the more technical side to my engineers. As well, I wanted to make sure that if anything could go wrong, I had a solution to it. It was well worth the extra work, doing things like printing off plenty of extra copies of music helped out a ton. Because of this, I was able to have the recording session go smoothly and end three hours earlier than I expected.

Looking back on the session, it taught me a lot about being a producer. A producer is less about sitting right behind the engineer, telling him orders and listening, and more about talking to the musicians working to help them play great. It is about making sure that they can make the best music possible and guiding them in the direction you want the music to go. That day was probably the hardest of my college career, but it also taught me so much about my field and gave me real-world experience. Furthermore, Professor Hill stopped by to check in, but I ran this day, it was not a supervised event. This gave me a look into what I want my career to be when I graduate, and I was very grateful to have the chance to prove myself as a producer.

The mixing of the tracks was another big take away I got from this project. The mixes were much different though. When thinking about this project, I had an idea in my head of what I wanted everything to sound like, and I didn't know how I was going to achieve it, I just said I was going to doing it. Once I got working though, it got hard. The parts didn't just line up and fit together the way I had expected at times. When I started

with “River Deep Mountain High,” it was a struggle to get it all right. The echo chamber sample I had been planning on using worked, but took time to get just right. I thought I would just put everything through it and be done, but I had to do so much more. Things, like filtering out frequencies before they went to the chamber, and altering what type of frequencies were allowed to come out, are things I had never thought to use before. All of this together created a problematic experience. The adversity made me think in different ways that I had before. I am used to creating something original and not done before, but this was a recreation, so I wanted it to sound right, so I spent an hour tweaking things to make it sound just the way I wanted. Once I figured it out on the first track, I was able to carry it over to the other two, making the process much faster.

After I began the mixing process, I was still not done with recording. I had to do my lead vocal recording as late as early March due to some unforeseen circumstances. I had planned on having a female singer record the lead parts on both "Be My Baby” and “River Deep Mountain High.” After planning for a year to have one vocalist she just never responded to me once, and I didn’t record her. This, while very frustrating, taught me the real world skill of rolling with it and figuring out a solution, and quick. Because I am in a great and collaborative environment, I was able to call a few friends, and in just two days had a new singer ready to record. It turned out that she was better than my original singer too. She did a fantastic job on the tracks and blew me away with her talent. I am fortunate that I was able to get a new singer so quickly, and one that was so talented.

Once I had all my vocalist recorded, I began to mix everything. This was more difficult than I thought, especially on the Beach Boys track. When I was trying to blend

the background vocals to make it sound like one cohesive unit, it caused me issues. I recorded three friends, but they just didn't fit together as the original group had. My solution to this was to record myself singing the background vocals. This made me step out of my comfort zone as I do not sing at all, but it turned out great to me. Being willing to step out of my conventional production technique is something that this project has taught me. You have to find a way to get things done, even if it makes you uncomfortable. Singing is something I never thought I would do, but because of this project, I am now not so scared of using my voice in my production.

After spending so long studying and trying to understand what Phil Spector did and how he created the "Wall of Sound," I still had some questions about how he did certain things with his mixing and mastering process. With nothing being documented on this, I had to go about it a different way. When meeting with both my mentors, I brought how I was achieving the sound I wanted, but it felt like I was doing it wrong. Professor Pfeifer then told me something that is a take away for every producer; he said that "you sometimes have to trust your ears, and if it sounds right, then you have done it right." This was an important lesson for me to learn, because up until this project, I felt like all the methods I used needed to be approved. When doing this project, it was in my hands. It wasn't about how I got there; it was creating a great finished product. This is something I would tell anyone who wants to do a creative project like this. You don't have to do everything by the book; you can experiment and work out the problems as you go. Without this kind of experimentation, I would have never achieved the product I got.

Looking back on my creative project, I am very proud of what I accomplished. Just the "River Deep, Mountain High" session cost 22,000 dollars which is roughly

190,000 dollars . My budget for this whole thesis was roughly 200 dollars and seven pizzas to feed my musicians. With how little I had, I am pleased with what I was able to accomplish. I would highly encourage anyone who is thinking about a creative project to do it. Learning to be creative in how you do things and the connections you make while doing it can be life-changing. Money can always be an excuse whether you have 100 dollars or 10,000 dollars, there are limitations, but you can make the best of what you have and just asking nicely can go a long way with musicians. As well, MTSU has many students that want to play on sessions, but they do know with whom to talk.

This thesis was a great challenge, but an even greater opportunity for me to learn about my career. It gave me first-hand experience about how the music industry works, and what I hope my future job will be like. It was difficult at times, but I also learned so much through the process. It is not often that an ungraduated student in the recording industry gets to do a project of this scale, but I was so glad I was afforded the opportunity. It allowed me one on one time with multiple esteemed and accredited professors in the music industry, extra hours in the studios, and experience in doing what I was to pursue after college. It was something that I am incredibly grateful for and encourage others to pursue in the future as well.

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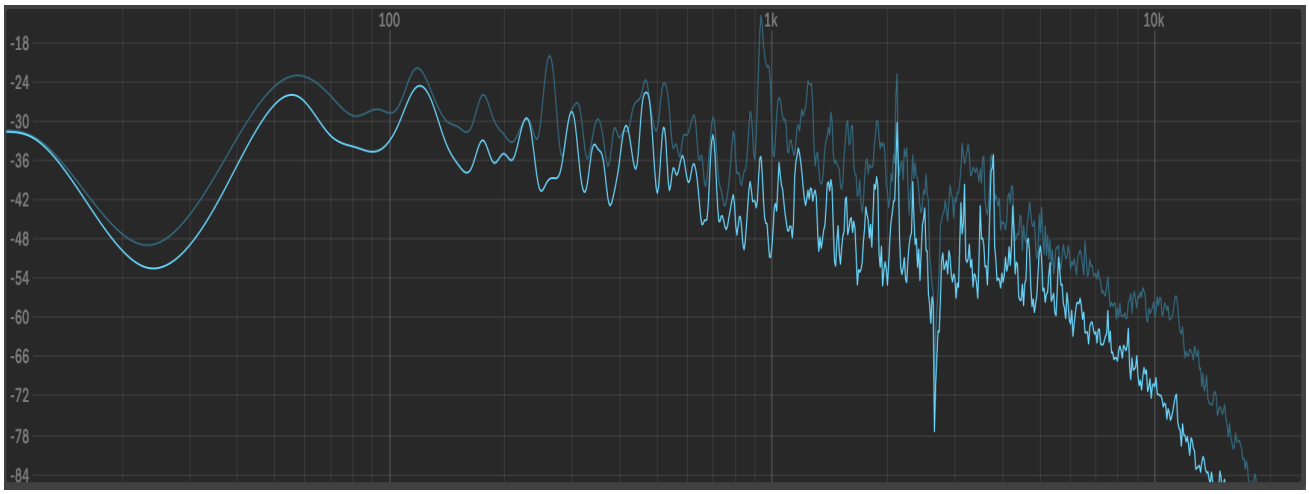
APPENDICES

Appendix A Graphs

A.2

“River Deep, Mountain High”



Screen capture from the spectrum analysis plugin in Ableton Live Suite. This capture is from the song “River Deep, Mountain High” by Ike and Tina Turner, produced by Phil Spector. This song was released in 1965 and was the pinnacle of Spector’s career. This graph shows how the sonics of Spector’s songs led to the "Wall of Sound."

Appendix B

Artist Credits

Engineers:

Dillon Matheny

Alex Parham

Drums and Aux Percussion:

Taylor Wood

Basses:

Lane Evans

Cody Lavallee

Guitars:

Steven Bacon

Bailey Frye

Connor Stith

Horns:

Logan Barrett

Dominique Caster

Gabriel Collins

Kevin James

Keys:

Matthew Williford

Strings:

Josh Claude

Accordion:

Ashley Landers

Lead Vocalists:

Daniel Alexander - Wouldn't it be Nice

Mackenzie Rector –Be my Baby and River Deep Mountain high

Background Vocals for Wouldn't it be Nice:

Cody Lavallee

Steven Quinn

Connor Stith

Taylor Wood

Background Vocals for River Deep Mountain High:

Meredith Aydelott

Katherine Aydelott

Miya Nicole Burt

Bailey Griffin

Joanna Finley

Brianna Owens

Morgan Pope